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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/753,941	01/07/2004	Dac-Sik Oh	2428	5516
28005	7590	03/30/2007		
SPRINT 6391 SPRINT PARKWAY KSOPHT0101-Z2100 OVERLAND PARK, KS 66251-2100			EXAMINER SAFAIPOUR, BOBBAK	
			ART UNIT	PAPER NUMBER
			2618	

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	03/30/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

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Office Action Summary	Application No. 10/753,941	Applicant(s) OH ET AL.	
	Examiner Bobbak Safaipoor	Art Unit 2618	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
 - If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
 - Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 07 January 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-30 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-30 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 07 January 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>4/12/04</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Information Disclosure Statement

The information disclosure statement submitted on 4/12/2004 has been considered by the Examiner and made of record in the application file.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 1-12, 14-16, 18-21, 23-30 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Schmutz (US Patent Application Publication #2001/0031621 A1)** in view of **Latt (US Patent #5,987,304)**.

Consider **claim 1**, Schmutz discloses a wireless repeater for receiving, amplifying and transmitting one or more wireless signals comprising: a signal processing device (read as digital signal processor; figure 4, paragraphs 44-46) for determining one or more attributes of a wireless signal received from a base transceiver station (figure 4; paragraph 39 and 44-46); and a memory for storing a reference list that includes a list of one or more preferred frequency bandwidths to be amplified and transmitted (read as BTS sends a transmission list including frequencies to the repeater; figure 6, paragraphs 51-63).

Schmutz fails to disclose a controller coupled with the signal processing device for comparing the one or more attributes of the wireless signal from the base transceiver station with the reference list, wherein the controller selects a first active set of one or more frequency bandwidths from the preferred frequency bandwidths based on the comparison; and a first reception filter coupled with the controller, wherein the first reception filter, responsive to one or more control signals from the controller, filters out signals, communicated to the first reception filter, having frequencies not within the first active set of frequency bandwidths.

In related art, Latt discloses a controller (read as control unit, col. 3, lines 32-52) coupled with the signal processing device for comparing the one or more attributes of the wireless signal from the base transceiver station with the reference list, wherein the controller selects a first

active set of one or more frequency bandwidths from the preferred frequency bandwidths based on the comparison (read as centre frequencies of the frequency band entering the filters coincide with the centre frequency of each filter; col. 3, lines 25-30); and a first reception filter coupled with the controller, wherein the first reception filter, responsive to one or more control signals from the controller, filters out signals, communicated to the first reception filter, having frequencies not within the first active set of frequency bandwidths (read as the frequency band can be cut off at either the upper and/or lower end if the centre frequencies do not coincide with the centre frequency of each filter; col. 3, lines 32-52).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to incorporate the controller and filter of Latt into the wireless repeater of Schmutz in order to facilitate frequency band changes in the repeater without necessitating hardware replacements.

Consider **claim 18**, Schmutz discloses a wireless repeater for receiving, amplifying and transmitting one or more wireless signals comprising: a first antenna for receiving a wireless signal from a base transceiver station (figure 4, paragraphs 41); a signal processing device coupled with the first antenna (read as digital signal processor; figure 4, paragraphs 44-46) for determining from the wireless signal from the base transceiver station, at least one of a frequency of the signal and information indicating a wireless provider (figure 4; paragraph 39 and 44-46); and a reference list that contains preferred frequencies to be amplified and transmitted (read as BTS sends a transmission list including frequencies to the repeater; figure 6, paragraphs 51-63).

Schmutz fails to disclose a controller coupled with the signal processing device for comparing at least one of the frequency of the wireless signal from the mobile device and the information indicating a wireless provider with the reference list, wherein the controller selects a first active set of frequency bandwidths from the preferred frequency bandwidths based on the comparison; a first reception filter coupled with the controller, wherein the first reception filter, responsive to control signals from the controller, filters out signals, received with the first antenna, of frequencies not in the first active set of frequency bandwidths; and a first amplifier coupled with the first reception filter for amplifying signals received from the first reception filter and a second antenna coupled with the first amplifier for transmitting the amplified signals to a mobile device.

In related art, Latt discloses a controller (read as control unit, col. 3, lines 32-52) coupled with the signal processing device for comparing at least one of the frequency of the wireless signal from the mobile device and the information indicating a wireless provider with the reference list, wherein the controller selects a first active set of frequency bandwidths from the preferred frequency bandwidths based on the comparison (read as centre frequencies of the frequency band entering the filters coincide with the centre frequency of each filter; col. 3, lines 25-30); a first reception filter coupled with the controller, wherein the first reception filter, responsive to control signals from the controller, filters out signals, received with the first antenna, of frequencies not in the first active set of frequency bandwidths (read as the frequency band can be cut off at either the upper and/or lower end if the centre frequencies do not coincide with the centre frequency of each filter; col. 3, lines 32-52); a first amplifier coupled with the first reception filter for amplifying signals received from the first reception filter (figures 1 and

2; col. 2, lines 25-40) and a second antenna coupled with the first amplifier for transmitting the amplified signals to a mobile device (figures 1 and 2; col. 2, lines 5-36).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to incorporate the teachings of Latt into the teachings of Schmutz to order to facilitate frequency band changes in the repeater without necessitating hardware replacements.

Consider **claim 25**, Schmutz discloses a method of receiving, amplifying and transmitting one or more wireless signals using a wireless repeater comprising: receiving a wireless signal from base transceiver station (figure 4, paragraphs 41); determining one or more attributes of the wireless signal from the base transceiver station (figure 4; paragraph 39 and 44-46); and a reference list that includes preferred frequency bandwidths (read as BTS sends a transmission list including frequencies to the repeater; figure 6, paragraphs 51-63).

Schmutz fails to disclose determining a first active set of frequency bandwidths by comparing at least one of the one or more attributes with a reference list that includes preferred frequency bandwidths; and filtering out signals, received by the wireless repeater with a first receiving device, having frequencies not within the first active set of frequency bandwidths prior to amplifying and transmitting.

In related art, Latt discloses determining a first active set of frequency bandwidths by comparing at least one of the one or more attributes with a reference list that includes preferred frequency bandwidths (read as centre frequencies of the frequency band entering the filters coincide with the centre frequency of each filter; col. 3, lines 25-30); and filtering out signals, received by the wireless repeater with a first receiving device, having frequencies not within the

first active set of frequency bandwidths prior to amplifying and transmitting (read as the frequency band can be cut off at either the upper and/or lower end if the centre frequencies do not coincide with the centre frequency of each filter; col. 3, lines 32-52).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to incorporate the teachings of Latt into the teachings of Schmutz to order to facilitate frequency band changes in the repeater without necessitating hardware replacements.

Consider **claim 2**, and **as applied to claim 1 above**, Schmutz, as modified by Latt, discloses the claimed invention wherein the one or more attributes includes a frequency of the wireless signal from the base transceiver station. (Schmutz: figure 4; paragraph 39 and 44-46)

Consider **claim 3**, and **as applied to claim 1 above**, Schmutz, as modified by Latt, discloses the claimed invention wherein a first antenna coupled with the signal processing device for receiving the wireless signal from the base transceiver station (Schmutz: figure 4, paragraphs 41); a second antenna for receiving wireless signals from a mobile device (Latt: figures 1 and 2; col. 2, lines 5-36); and a second reception filter coupled with the second antenna and the controller, wherein the second reception filter, responsive to control signals from the controller, filters out signals, received with the second antenna, having frequencies not within a second active set of frequency bandwidths, wherein the second active set of frequency bandwidths is determined based on the comparison of the one or more attributes of the wireless signal from the base transceiver station with the reference list (Latt: col. 3, lines 25-57).

Consider **claim 4**, and **as applied to claim 3 above**, Schmutz, as modified by Latt, discloses the claimed invention wherein the first and second active sets of frequency bandwidths comprise respective, corresponding sets of forward-link and reverse-link PCS communication bandwidths. (Schmutz: figures 3a-3b, paragraphs 36-38)

Consider **claim 5**, and **as applied to claim 4 above**, Schmutz, as modified by Latt, discloses the claimed invention wherein the corresponding sets of forward-link and reverse-link bandwidths comprise at least one forward-link communication channel and at least one corresponding reverse-link communication channel. (Schmutz: figures 3a-3b, paragraphs 36-38)

Consider **claim 6**, and **as applied to claim 3 above**, Schmutz, as modified by Latt, discloses the claimed invention wherein the first antenna comprises a donor antenna for communicating wireless signals between the base transceiver station and the repeater (Latt: col. 2, lines 6-12), and the second antenna comprises a coverage antenna for communicating wireless signals between the mobile device and the repeater (read as radio communication between the repeater. (Latt: col. 2, lines 6-12)

Consider **claim 7**, and **as applied to claim 3 above**, Schmutz, as modified by Latt, discloses the claimed invention except for wherein the first and second sets of frequency bandwidths each include at least one respective contiguous range of frequency range of frequency bandwidths, each of the respective contiguous ranges corresponding with one of a PCS communication band or block.

Nonetheless, to the extent that Schmutz, as modified by Latt, do not specify the exact range of the frequency bandwidths, this figure would have been a matter of routine experimentation to determine a contiguous range of frequency range of frequency bandwidths, each of the respective contiguous ranges corresponding with one of a PCS communication band or block. See *In re Aller*, 105 USPQ 233 (CCPA 1955) (Where the general conditions of a claim are disclosed in the prior art, it is not inventive to discover the optimum or workable ranges by routine experimentation) (MPEP 2144.05).

Consider **claim 8**, and as applied to **claim 1** above, Schmutz, as modified by Latt, discloses the claimed invention wherein the signal processing device comprises a digital signal processor. (Schmutz: figure 4, paragraphs 44-46)

Consider **claim 9**, and as applied to **claim 1** above, Schmutz, as modified by Latt, discloses the claimed invention wherein the signal processing device comprises a mobile device chipset. (Schmutz: figure 4, paragraphs 44-46)

Consider **claim 10**, and as applied to **claim 9** above, Schmutz, as modified by Latt, discloses the claimed invention wherein the mobile device chipset is a code division multiple access mobile device chipset. (Schmutz: figure 4, paragraphs 44-46)

Consider **claim 11**, and as applied to **claim 1** above, Schmutz, as modified by Latt, discloses the claimed invention wherein each of the preferred frequency bandwidths in the

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reference list corresponds with a respective mobile communication network. (Latt: col. 3, lines 25-30)

Consider **claim 12**, and as applied to **claim 11** above, Schmutz, as modified by Latt, discloses the claimed invention wherein the reference list further includes, for each preferred frequency bandwidth, information designating the respective mobile communication network. (Latt: col. 3, lines 25-30)

Consider **claim 14**, and as applied to **claim 1** above, Schmutz, as modified by Latt, discloses the claimed invention wherein the wireless signal received from the base transceiver station is a synch-channel signal, and one of the one or more attributes comprises a sync-channel message. (Schmutz: figures 3a-3b, paragraphs 36-38)

Consider **claim 15**, and as applied to **claim 14** above, Schmutz, as modified by Latt, discloses the claimed invention wherein the reference list includes an expected synch-channel message for each of the preferred frequency bandwidths. (Schmutz: figures 3a-3b, paragraphs 36-38)

Consider **claim 16**, and as applied to **claim 14** above, Schmutz, as modified by Latt, discloses the claimed invention wherein the signal processing device communicates the sync-channel message to the controller, and the controller compares the synch-channel message with

the reference list to determine the first set of frequency bandwidths. (Schmutz: figures 3a-3b, paragraphs 36-38)

Consider **claim 19**, and as applied to **claim 18** above, Schmutz, as modified by Latt, discloses the claimed invention wherein a second reception filter coupled with the controller, wherein the second reception filter, responsive to control signals from the controller, filters out signals, received with the second antenna, of frequencies not in a second active set of frequency bandwidths, the second active set of frequency bandwidths being based on the comparison of at least one of the frequency of the wireless signal from the base transceiver station and the information indicating a wireless provider with the reference list (Latt: col. 3, lines 25-57).

Consider **claim 20**, and as applied to **claim 19** above, Schmutz, as modified by Latt, discloses the claimed invention except for wherein the frequency bandwidths of the first active set of frequency bandwidths comprise forward-link PCS bandwidths in the frequency range of 1930 to 1990 MHz and the bandwidths of the second active set of frequency bandwidths comprise reverse-link PCS bandwidths in the frequency range of 1850 to 1910 MHz.

Nonetheless, to the extent that Schmutz, as modified by Latt, do not specify the exact range of the frequency bandwidths, this figure would have been a matter of routine experimentation to determine the forward-link and reverse-link PCS bandwidths in the frequency range of 1930 to 1990 MHz and 1850 to 1910 MHz, respectively. See *In re Aller*, 105 USPQ 233 (CCPA 1955) (Where the general conditions of a claim are disclosed in the prior art, it is not

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inventive to discover the optimum or workable ranges by routine experimentation) (MPEP 2144.05).

Consider **claim 21**, and as applied to **claim 18** above, Schmutz, as modified by Latt, discloses the claimed invention wherein the signal from the base transceiver station comprises a sync-channel signal and the information identifying the wireless provider comprises a sync-channel message. (Schmutz: figures 3a-3b, paragraphs 36-38)

Consider **claim 23**, and as applied to **claim 18** above, Schmutz, as modified by Latt, discloses the claimed invention wherein the signal processing device comprises a digital signal processor. (Schmutz: figure 4, paragraphs 44-46)

Consider **claim 24**, and as applied to **claim 18** above, Schmutz, as modified by Latt, discloses the claimed invention wherein the signal processing device and the controller are included in a single electronic component. (Schmutz: figure 4, paragraphs 44-46; Latt: col. 3, lines 32-52)

Consider **claim 26**, and as applied to **claim 25** above, Schmutz, as modified by Latt, discloses the claimed invention wherein determining a second active set of frequency bandwidths based on the comparison of the at least one of the one or more attributes with the reference list, and filtering out signals, received by the wireless repeater with a second receiving device, having frequencies not within the second active set of frequency bandwidths (Latt: col. 3, lines 25-57).

Consider **claim 27**, and as **applied to claim 26 above**, Schmutz, as modified by Latt, discloses the claimed invention wherein the first active set of frequency bandwidths comprises forward-link PCS bandwidths and the second active set of frequency bandwidths comprises reverse-link PCS bandwidths. (Latt: col. 3, lines 25-57; Schmutz: figures 3a-3b, paragraphs 36-38)

Consider **claim 28**, and as **applied to claim 25 above**, Schmutz, as modified by Latt, discloses the claimed invention wherein determining the one or more attributes of the wireless signal from the base transceiver station comprises determining a synch-channel message to be compared with the reference list to determine the first and second active sets of frequency bandwidths. (Schmutz: figures 3a-3b, paragraphs 36-38)

Consider **claim 29**, and as **applied to claim 25 above**, Schmutz, as modified by Latt, discloses the claimed invention wherein displaying a result of the comparison of the at least one of the one or more attributes with the reference list. (Latt: col. 3, lines 25-30)

Consider **claim 30**, and as **applied to claim 29 above**, Schmutz, as modified by Latt, discloses the claimed invention wherein displaying a result of the comparison comprises displaying information corresponding with at least one of a system identification and a network identification, wherein the system identification and the network identification are included in a sync-channel message. (Schmutz: figures 3a-3b, paragraphs 36-38)

Claims 13, 17, 22 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Schmutz (US Patent Application Publication #2001/0031621 A1)** in view of **Latt (US Patent #5,987,304)** and in further view of **Sorenson et al (US Patent #6,463,298)**.

Consider **claim 13**, and as applied to **claim 1** above, Schmutz, as modified by Latt, discloses the claimed invention except for wherein the reference list comprises a preferred roaming list.

In related art, Sorenson et al disclose a preferred roaming list. (col. 3, lines 10-20)

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to incorporate the teachings of Sorenson et al into the teachings of Schmutz and Latt to incorporate a preferred roaming list over other system choices when the device is seeking to establish service.

Consider **claim 17**, and as applied to **claim 1** above, Schmutz, as modified by Latt and Sorenson et al, discloses the claimed invention wherein the wireless repeater further comprises a display device for displaying a result of the comparison of the one or more attributes with the reference list. (Sorenson et al: col. 3, lines 10-27)

Consider **claim 22**, and as applied to **claim 18** above, Schmutz, as modified by Latt and Sorenson, discloses the claimed invention wherein the reference table comprises a preferred roaming list. (Sorenson et al: col. 3, lines 10-20)

Conclusion

Any response to this Office Action should be **faxed to (571) 273-8300 or mailed to:**

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Any inquiry concerning this communication or earlier communications from the Examiner should be directed to Bobbak Safaipour whose telephone number is (571) 270-1092.

The Examiner can normally be reached on Monday-Friday from 9:00am to 5:00pm.

If attempts to reach the Examiner by telephone are unsuccessful, the Examiner's supervisor, Edan Orgad can be reached on (571) 272-7884. The fax phone number for the organization where this application or proceeding is assigned is (571) 273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR

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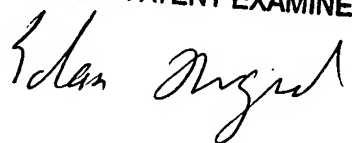
system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free) or 703-305-3028.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist/customer service whose telephone number is (571) 272-2600.


Bobbak Safaipoor
B.S./bs

March 26, 2007

EDAN ORGAD
PRIMARY PATENT EXAMINER

 3/26/07